

Luke and Freebody indicate that the underlying proposition of their model is that all of these repertoires are variously mixed and orchestrated in proficient reading and writing. Since the key concept in the model is *necessity* and not *sufficiency*, each practice is *necessary* for literacy in new conditions, but of themselves, none of the four practices is *sufficient* for literacy competence.

Commenting on this model, Hay, Elias and Booker (2005) note: 'Students with reading difficulties can have persistent problems in engaging with texts in these various ways, and teachers must be able to select and implement suitable interventions for them' (p. 5). However, whereas this 'four resources' model is widely acknowledged and espoused among Australian teacher educators and classroom teachers, concern has been expressed (as already mentioned) that many teachers do not have the necessary training, knowledge and teaching strategies to provide their students with the *essential* alphabetic code-breaking 'resources' (see, for example: Anderson *et al.*, 2004; Center, 2005; Coltheart, 2005b,c; de Lemos, 2002, 2004a,b; Louden *et al.*, 2005a; Rohl & Greaves, 2004; Westwood, 1999, 2004).

In concluding the present section related to the evidence base for *effective teaching practices during the early years*, especially for children experiencing reading difficulties, the summary provided by Hay, Elias and Booker (2005, pp. 4-5) is worthy of note. This summary applies to both early and subsequent development of reading competence during the later years of primary and middle years of schooling. To this end, the relevant text is reproduced below.

Learning to read

The ability to read and comprehend depends on the rapid and automatic recognition of single words. All words are visually unfamiliar when encountered for the first time and a powerful strategy in this situation is for the student to use phonological knowledge to identify the word. That is, students recognise the unfamiliar word by identifying and blending its phonological (sound) elements and comparing that sound pattern to the sound patterns of words in their oral/aural vocabulary. The beginning reader must learn to decode some thousands of words that are initially visually unfamiliar and to commit those visual patterns to memory.

Whereas most students achieve the necessary levels of phonological awareness, this is not the case for many students with reading difficulties. Improvements in phonological skills usually result in increases in students' ability to identify single words as well as enhancing their spelling skills (Schlagal, 2001). There is considerable debate in the

literature regarding the optimal levels and intensity of phonological instruction components in the total reading programme. The notion that any one intervention can be a 'one-size-fits-all' model denies the reality of the diverse range of problems within this group of students. Unless the student is able to read words fluently, heavy demands are made on memory during a slow and tedious word decoding process that requires the reader to identify each succeeding word (Spencer & Hay, 1998). As a result, memory capacity becomes overtaxed and comprehension is detrimentally affected. By the time these readers reach the end of a sentence, they have little or no memory of the text information that they identified earlier. One of the advantages in re-reading text is that the increasing familiarity of the material reduces the demands made on memory by the decoding process, thereby allowing students to attend to the meaning.

Comprehension

Reading, however, involves more than the rapid and accurate identification of individual words. Many students in the middle and upper school with reading difficulties cannot identify and process the information contained in phrases, sentences and relationships between sentences and so cannot comprehend the text. They do not understand the purpose of reading a particular text and are unaware that they are failing to meet the requirements of the reading task. Frequently, readers in the middle primary grades struggle to make the transition from learning-to-read, to being independent readers able to read to meet the various demands of the curriculum (reading to learn).

As successful readers process text, they are active, they skim the text and make predictions, they relate ideas in text to their prior knowledge, they construct images, generate questions and summaries (Woolley & Hay, 2004). Furthermore, they identify the purpose of the reading task and the main ideas in the text, monitoring their ongoing understanding of the story or content, repairing breakdowns when comprehension failures occur and integrating the content of the text with what they already know. In addition, the reader monitors the effectiveness of their reading. This monitoring is referred to as metacognitive since it refers to the reader/learner 'thinking about thinking'. When the goals of the reading task are not being met, the successful reader modifies and/or substitutes strategies to remedy the situation (e.g., re-reading).

Reading strategies

There is considerable agreement among researchers that students with reading difficulties are frequently unable to use strategies that will best enable them to achieve the goals of the reading task (Duke & Pearson, 2002). For example, if students wish to monitor their own learning they may choose to summarise the text and identify the main ideas. Effective readers know what the strategies are, how to carry them

out and when and where to use them. Although their academically more successful peers often develop such strategies incidentally, these strategies must be explicitly taught to many children with reading difficulties. One contentious question concerns whether reading comprehension instruction should be taught in or out of the context of regular curriculum (authentic) tasks. For students with learning difficulties, another concern is the amount of time teachers should devote to teaching a particular strategy before abandoning it if students fail to master it. Although some have suggested that the teaching of a particular strategy should be reconsidered after a period as short as two weeks, others have pointed to the difficulties associated with learning new strategies and propose that the learning of an unfamiliar strategy can take as long as six months and emphasise that too-early abandonment will confuse the student.

In summary, research indicates that students with learning difficulties make greater progress when instructional interventions are multifaceted combining a range of approaches. For example, some of the best results are achieved in intervention programmes when they include a variety of elements such as awareness of sound and letter relationships, vocabulary development and strategy teaching (Jordan, Snow & Porche, 2000).

For a comprehensive review of findings from the evidence-based research for effective intervention teaching practices for students (during the middle years of schooling) with learning difficulties in both literacy and numeracy, see: Ellis (2005); Purdie and Ellis (2005).

4. Implications for teacher education and professional development

Quality teaching requires deep knowledge of content and extensive knowledge of how students learn that content. It also requires pedagogical content knowledge; that is, knowledge about how to teach the content. In the case of the teaching of reading quality teaching involves knowledge of how students learn to read, knowledge of how to assess reading proficiency and growth (e.g., Griffin & Nix, 1991; Griffin *et al.*, 1999a,b; Rowe, 2005; Rowe & Hill, 1996), and knowledge of how to use assessment information to apply the appropriate strategies from a repertoire of practices that are demonstrably effective for teaching students to read. To sustain quality teaching in reading, ongoing professional learning is essential.

The provision of opportunities for professional learning, at all stages of a teacher's career, is vital to building capacity in teacher professionalism – provided that such professional learning is firmly grounded in findings from evidence-based research. Whereas professional learning commences in pre-service teacher education, it is crucial that it continue via ongoing professional development activities, including participation in school-based professional learning teams. Opportunities for professional learning can take many forms, including teachers' shared and collaborative learning in school, work in professional learning teams, and professional development for principals and school literacy leaders.

Findings from the evidence-based research reviewed here demonstrate that teaching approaches based on models of *explicit instruction* produce significantly higher positive effects for students with reading difficulties than other approaches. Furthermore, when an integrated approach is adopted in which teachers have the necessary knowledge and skills to combine the essential elements of explicit-based and meaning-based approaches, the outcomes for students are likely to be most positive. However, in designing pre-service teacher education courses, as well as in-service professional development programs that build capacity in teachers to maximise the schooling outcomes for students with learning difficulties, Spiegel's (1998) observation concerning student and task variation is worth noting: